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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hong-Jin Ahn

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EXAMINER

GUPTA, MUKTESH G

ART UNIT

PAPER NUMBER

2144

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/781,865	Applicant(s) AHN, HONG-JIN	
	Examiner Muktesh G. Gupta	Art Unit 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2-6,8-11 and 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,12-18 and 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. **Claims 1, 7, 12-13, 16-18, 23-25 and 28** are amended.

Claims 2-6, 8-11 and 19-22 are cancelled.

Claims 1, 7, 12-18, and 23- 28 have been examined on merits and are pending in this application.

Response to Amendment

2. Applicant's amendment filed on 02/15/2008 necessitated a new ground(s) of rejection presented in this office action. Applicant's arguments are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., *extracting a first IP version address based information from a source second IP version address, wherein the second IP version address contains the first IP version address*) to the claims which significantly affected the scope thereof.

Applicant's arguments with respect to **Claims 1-28** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7, 12-18, and 23-28 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 20030221016 to Jouppi et al. (hereinafter "Jouppi"), as applied to claims above, and further in view of US Patent No. 7145919 to Krishnarajah; Ainkaran et al., (hereinafter "Krishnarajah")

As to Claims 1, 7, and 17, Jouppi teaches method and apparatus for performing Traffic Flow Template (TFT) filtering according to Internet Protocol (IP) versions in a mobile communication system, the method comprising the steps of (as stated in par. 0002, lines 1-6, The mobile station knows which application data flows are to be directed into which PDP context tunnel in the transmission of uplink data. In the direction of the downlink, the gateway GPRS support node GGSN must also know packet-specifically which PDP context is used for which data flow received from an external IP network. For this purpose, the destination IP address of the packet is used, and also TFT (Traffic Flow Template) templates are defined for the UMTS):

extracting a first IP version address based information from a source second IP version address, wherein the second IP version address contains the first IP version address (as stated in par. 0002, lines 9-12, par. 0006, lines 19-22, mobile station transmits given values of TCP/UDP/IP address fields to the gateway GPRS support node GGSN for the identification of the flow. The TFT contains one or more so called packet filters. The filter functionality can be implemented by using not only an interface identifier but also other predetermined parameters and/or conditions with which the

packets or data flows can be identified in the IPv6 address structure. Examiner views Filtering understood as Extracting);

and generating TFT information using the first IP version address, wherein the TFT information contains an indication that the second IP version address contains the first IP version address (as stated in par. 0039, lines 11-12, par. 0006, lines 19-22, The TFT can comprise at least the following filter parameters: source IP address, refers to the address of a peer device in an external network PDN, source gate, destination gate, DiffServ field (Differentiated Services), flow identifier (IPv6), protocol number (IPv4)/ the next address field (IPv6), etc.);

and transmitting the TFT information to a Gateway GPRS (General Packet Radio Service) Support Node (GGSN) (as stated in par. 0039, line 2, lines 6-11, The mobile station MS transmits, TFT template, contents of the TFT template is transferred in a particular TFT information element, which can be used to create a new TFT, to remove an existing TFT and to add, remove or replace one or more filters of an existing TFT. The TFT is transmitted transparently through the SGSN).

Krishnarajah also teaches, as stated in col. 14, lines 38-57, In a UMTS architecture, the UE identifies a flow based on a set of parameters defined in a traffic flow template (TFT) which acts as a packet filter using filter parameters, like IP source/destination address, UDP source/destination address, etc., that are the same for an IP stream. The TFT is mapped to a specific GTP tunnel for which the PDP context was initiated. In the case where an IPv6 the flow label is used for flow identification, the UE initiates one TFT per flow and then maps it to the GTP tunnel. In the RTP header

and destination option example implementations, only one TFT for the entire flow need be initiated since these example mechanisms do not modify any of the TFT parameters. Advantageously, introducing information in the IP flow label does not affect the TFT mechanism of directing each flow to the appropriate radio bearer. Although the flow label identify in the IPv6 header has been described here, similar identifiers in an IP packet, including in an IPv4 packet, may be used to indicate the subflows of a particular CODEC stream in order to perform different treatment on those subflows, e.g., a Type of service, TOS field in the IPv4 header could be redefined.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate TFT filtering of Krishnarajah into Jouppi disclosure.

The motivation would have been for filtering of flows based on IPv4 and or IPv6 for reducing computation load, QoS, and defining class of flows.

Therefore, it would have been obvious to combine these two references of Jouppi's and Krishnarajah's disclosure to identify a flow/packet and transmit it on the radio bearer configured with the corresponding treatment/class.

As to Claims 12, 18, 23, and 24, Jouppi teaches method and apparatus as set forth in claim 1 further comprising:

allowing User Equipment (UE) to perform the steps of extracting, generating TFT information and transmitting the generated TFT information to a Gateway GPRS (General Packet Radio Service) Support Node (GGSN) (as stated in par. 0035, lines 4-5, par. 0039, lines 6-11, par. 0025, lines, par. 0027, lines 1-5, The mobile station is

responsible for adding and updating TFT templates. The mobile station MS transmits a TFT template, contents of the TFT template is transferred in a particular TFT information element, which can be used to create a new TFT, to remove an existing TFT and to add, remove or replace one or more filters of an existing TFT. The TFT is transmitted transparently through the SGSN, to the GGSN which receives the TFT template. Operation of the mobile station MS is divided into two devices, for example into a computer (controller) operating as the terminal equipment TE and a UMTS communication device operating as mobile termination MT, the MT can observe the source IP addresses of applications of the TE and packets transmitted by the IP stack, particularly interface identifiers. Computer functions as TFT filter and stores TFT information in its memory);

allowing the GGSN to store the TFT information received from the UE and to extract the first bits representing the first IP version address from the second IP version address when the second IP version address has the first IP version address inserted (as stated in par. 0037, lines 2-4, par. 0035, lines 16-26, Mobile station transmits TFT template, whereby the GGSN receives the TFT template in step 501 of FIG. 5, stores it in step 502 and uses it in step 504. On the basis of the requirements of the application, the MS determines for the PDP context request the quality of service QoS to be requested and for the TFT template the required filter information. On the basis of the request message, a new PDP context can be negotiated between the MS, SGSN and GGSN or an existing PDP context can be modified based on determined

filter parameter of the PDP context TFT template (filter FI) transmitted by the MS in question for the filter functionality FF of the gateway GPRS support node GGSN).

and allowing the GGSN to perform the TFT packet filtering using the extracted first IP version address (as stated in par. 0031, lines 9-11, it is also easier and faster for the gateway GPRS support node GGSN to use the IPv4 and or IPv6 address as the filter parameter, for filter functionality FF of the gateway GPRS support node GGSN).

As to Claims 13, and 25, Jouppi teaches method and apparatus as set forth in claims 1, 7, 12 or 23, wherein the second IP version address into which the first IP version address is inserted is a first IP version-compatible second IP version address or a first IP version-mapped second IP version address (as stated in par. 0039, lines 11-12 and par. 0040, lines 1-9 and par. 0006, lines 1-7, in TFT filtering, part of the IP version address allocated by the terminal is used as a filter to guide mapping of data flows from a first subsystem to the terminal of a second subsystem).

As to Claims 14, and 26, Jouppi teaches method and apparatus as set forth in claims 13, and 25, wherein the first IP version-compatible second IP version address is an address used between networks capable of supporting both a first IP of the first IP version and a second IP of the second IP version (as stated in par. 0004, lines 1-5, par. 0020, lines 1-17 and par. 0026, lines 1-17, the main parts of the mobile communication system are a core network CN and a terrestrial radio network UTRAN of the UMTS

mobile communication system, which support both Ipv4 and Ipv6 to define the PDP address to be used for the mobile station).

As to Claims 15, and 27, Jouppi teaches method and apparatus as set forth in claims 13, and 25, wherein the first IP version- mapped second IP version address is an address used between a network capable of supporting only a first IP of the first IP version and a network capable of supporting both the first IP of the first IP version and a second IP of the second IP version (as stated in par. 0004, lines 1-5 and par. 0026, lines 1-17, UMTS system support transmission of both Ipv4 and Ipv6 packets is applied to any packet-switched telecommunication system, wireless local area networks, Bluetooth systems, fourth-generation systems succeeding the UMTS system, or systems supporting packet-switched services of second-generation mobile communication systems, such as the GPRS system. The invention can also be applied to wired terminals and network elements supporting them).

As to Claims 16, and 28, Jouppi teaches method and apparatus method as set forth in claim 1, 7 or 12, wherein the first IP version is an IPv4 (IP version 4) and the second IP version is an IP version 6 (IPv6) (as stated in par. 0026, lines 1-17, for receiving and transmitting packet-switched data, the MS activates at least one PDP context which makes the MS known in the gateway GPRS support node GGSN and forms a logical data transmission context in the mobile station MS, in the serving GPRS support node SGSN and in the gateway GPRS support node GGSN. In the

establishment stage of the PDP context, a PDP address, which is an IPv4 or an IPv6 address (when the PDP type is IP), is determined for the MS).

Response to Arguments

4. Applicant's arguments, with regards to **Claims 1, 7, 17, and 23**, filed 02/15/2008 have been fully considered but they are not persuasive.

The Examiner respectfully disagrees with Applicant's arguments, on page 9-11, as updated search resulted in new grounds of rejections with additional reference of Krishnarajah.

Regarding "the claimed step of extracting a first IP version address from a source second IP version address, wherein the second IP version address contains the first IP version address, which is designed to ultimately let GGSN avoid the more expensive type of computations, for example, 128-bit computations, and instead replace them by the much more efficient type of computations, for example, 32-bit computations", Additional reference of Krishnarajah teaches, " TFT is mapped to a specific GTP tunnel for which the PDP context was initiated. In the case where an IPv6 the flow label is used for flow identification, the UE initiates one TFT per flow and then maps it to the GTP tunnel. similar identifiers in an IP packet, including in an IPv4 packet, may be used to indicate the subflows of a particular CODEC stream in order to perform different treatment on those subflows, e.g., a TOS field in the IPv4 header could be redefined", as stated in col.14, lines 38-57, and "it is desirable to compress the headers of each IP packet in order to reduce the amount of bandwidth necessary to transport those

headers. Example UMTS-type header compression protocols are described in RFC 2507 and 3095 and reside in the protocol compression entities shown just above the radio link layer in FIG. 10 in the PDCP protocol described at 3GPP TS 25.323. Header compression protocols are selected by the RNC and configured by the UE using radio resource control signaling. Other header compression algorithms may be used”, as stated in col. 11, lines 56-65. Thus Krishnarajah solves both the problems of identification of packets based on IPv6 or IPv4 and compressing to reduce computational load.

Therefore, in view of the above reasons, Examiner maintains rejections.

Action Final

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Muktesh G. Gupta whose telephone number is 571-270-5011. The examiner can normally be reached on Monday-Friday, 8:00 a.m. -5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2153

/Glenton B. Burgess/

Supervisory Patent Examiner, Art Unit 2153

MG